Partnership for Carbon Accounting Financials

Measuring what matters: A deep dive into calculating financed emissions

November 8th 2023

PCAF Partnership for Carbon Accounting Financials

Agenda

- THE VALUE OF MEASURING FINANCED EMISSIONS
- INTRODUCTION TO PCAF
- PCAF DRIVING TANGIBLE BUSINESS OUTCOMES
- GHG ACCOUNTING IMPLEMENTATION
- DEEP DIVE INTO INSURANCE ASSOCIATED EMISSIONS
- BENEFITS OF PCAF

The Value of Measuring Financed Emissions

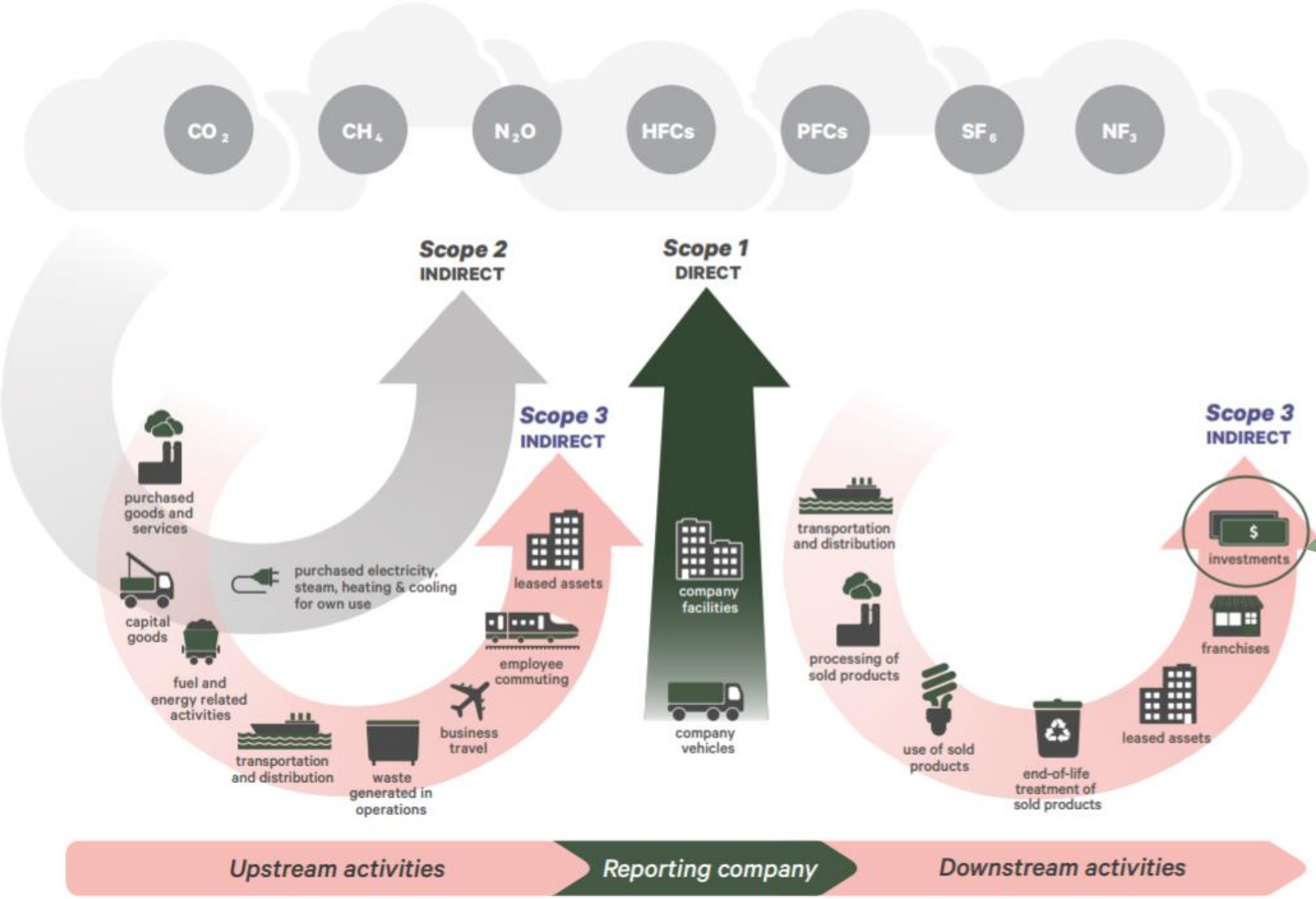
PCAF
Partnership for
Carbon Accounting
Financials

Intro to GHG accounting for financial institutions

Greenhouse gas (GHG) accounting for financial institutions is the annual accounting and disclosure of **GHG emissions** associated with **loans and investments** at a fixed point in time in line with financial accounting periods.

What gets measured gets managed.

Financial institutions indirectly create a climate impact through their loans and investments

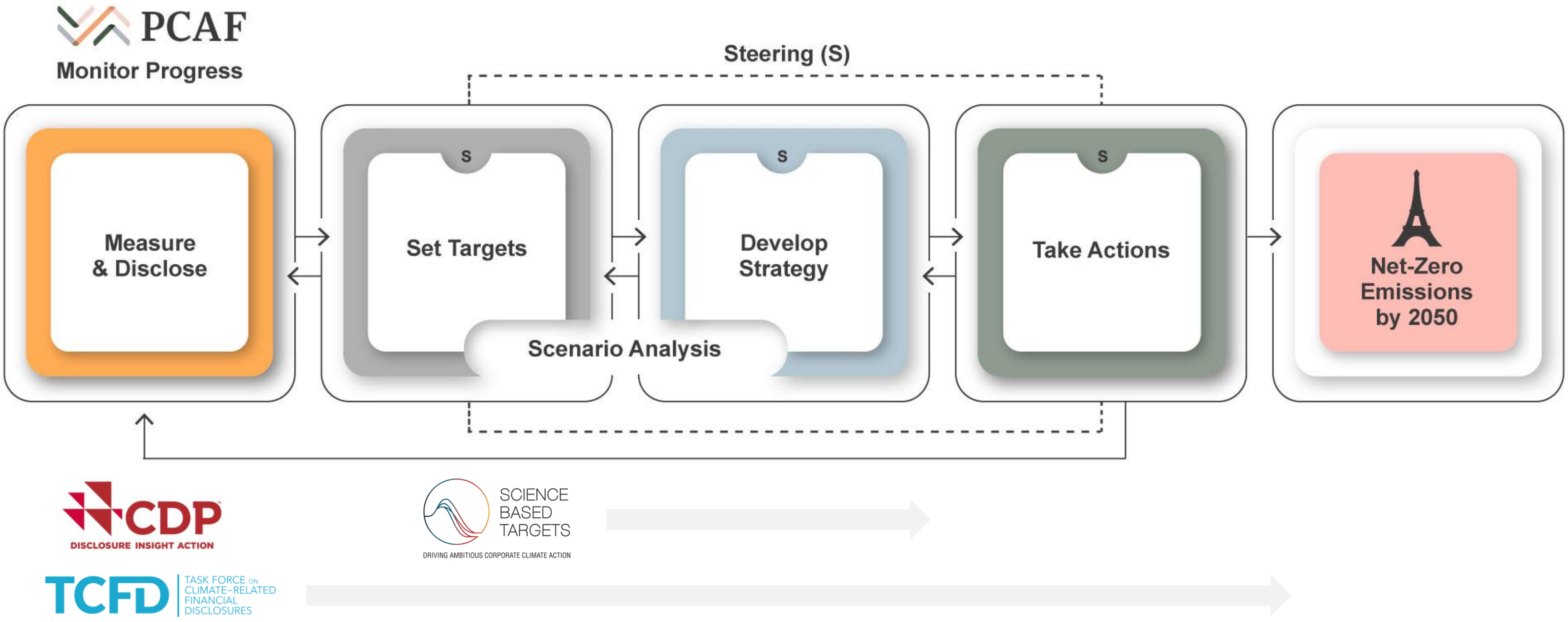


In alignment with the GHG Protocol, PCAF enables financial institutions to measure and report Scope 3, Category 15 emissions.

Portfolio emissions of global financial institutions are on average **750x larger** than direct emissions.[1]

[1]*Source: CDP, 2022:* https://www.cdp.net/en/research/global-reports/financial-services-disclosure-report-2022

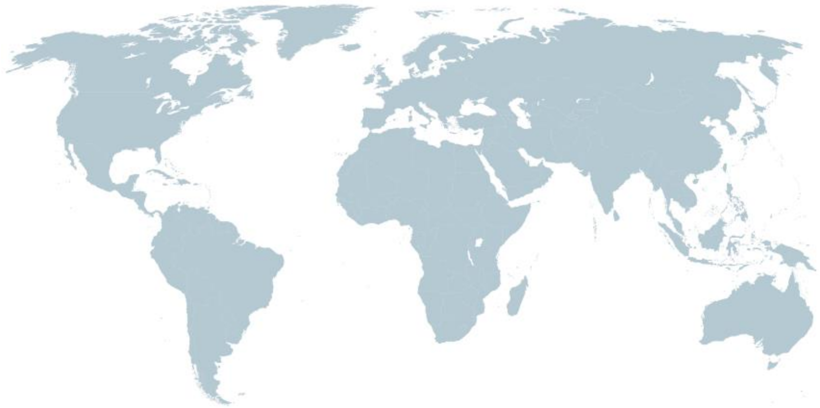
GHG accounting exists as a discrete action in a sequence that allows banks and investors to measure, disclose and align



Introduction to PCAF

PCAF Partnership for Carbon Accounting Financials

PCAF: An industry-led initiative to standardize the measurement and disclosure of emissions associated with financial activities

2015: NETHERLANDS		2018: NORTH AMERICA		2019: GLOBAL
	>		>	

GLOBAL STEERING COMMITTEE

ABN·AMRO

amalgamated bank

Global Alliance for Banking on Values

NMB BANK एनएमबि बैंक समृद्ध नेपालको लागि

Morgan Stanley

Nordea

448 financial institutions in 69 countries are part of PCAF

PCAF OBJECTIVES

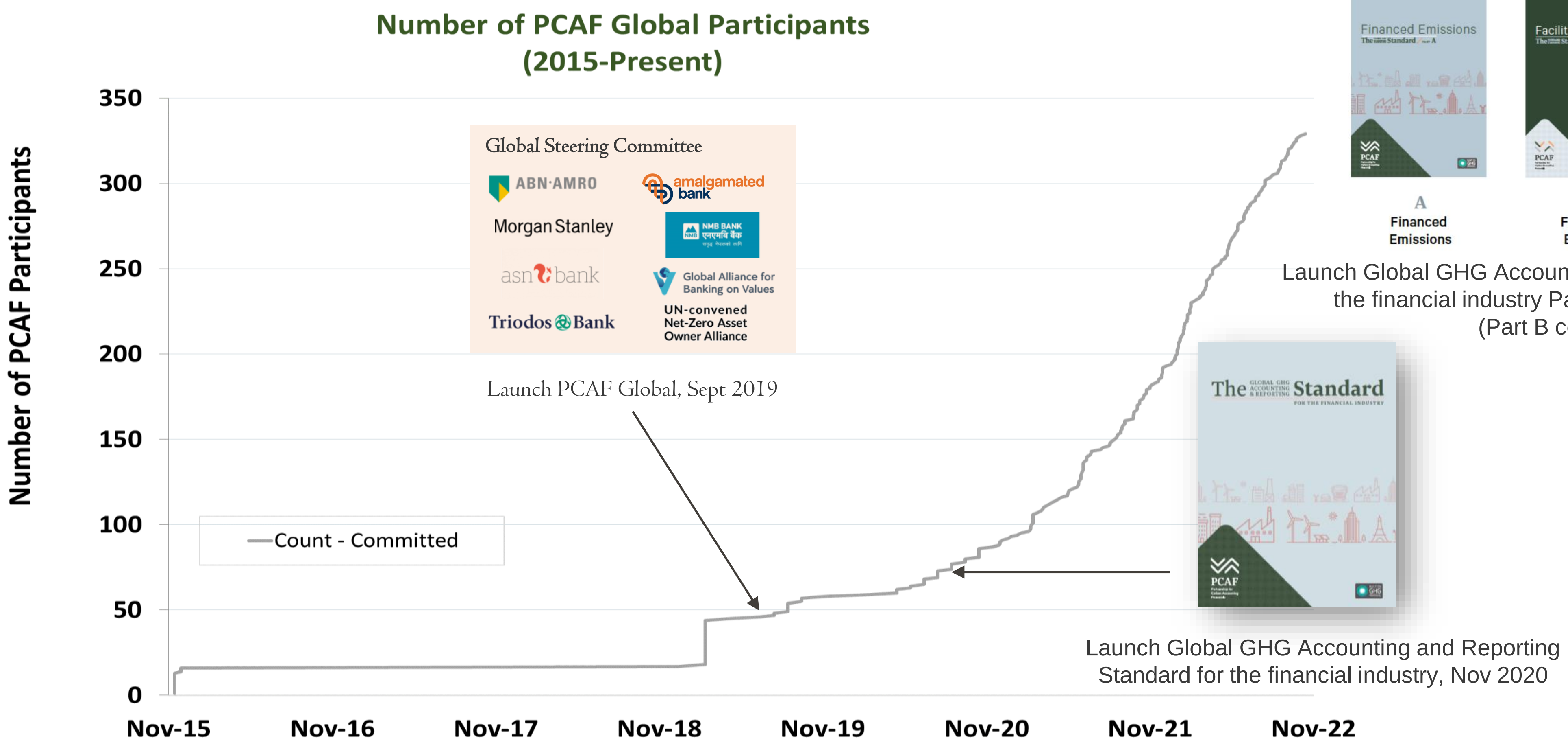
Develop the Global GHG Accounting and Reporting Standard for the Financial Industry

Increase the number of financial institutions that use the Standard and disclose financed emissions to over 1,000 institutions worldwide by year-end 2025

CHECK THE FULL LIST OF PCAF SIGNATORIES HERE

DOWNLOAD THE GLOBAL GHG ACCOUNTING AND REPORTING STANDARD HERE

PCAF's goal is to further develop the Global GHG Accounting and Reporting Standard for the Financial Industry and reach +1,000 signatories by 2025



Launch Global GHG Accounting and Reporting Standard for the financial industry Part A and Part C, Dec 2022 (Part B coming soon)

The standard contains three distinct parts: Financed Emissions, Facilitated Emissions and Insurance-Associated Emissions

The Standard is divided into three parts

The GLOBAL GHG ACCOUNTING & REPORTING Standard

A
Financed Emissions

B
Facilitated Emissions

C
Insurance-Associated Emissions

Each part of the Standard focuses on a different financial activity

Part A – Financed Emissions

- Provides methodological guidance **to measure and disclose GHG emissions** associated with seven asset classes as well as guidance on emission removals.
- The **seven asset classes** are: 1) listed equity and corporate bonds, 2) business loans and unlisted equity, 3) project finance, 4) commercial real estate, 5) mortgages, 6) motor vehicle loans, and 7) sovereign debt.

Part B – Facilitated Emissions

- Provides methodological guidance for measuring and reporting the GHG emissions associated with **the capital markets transactions**
- To be launched in **2023**.

Part C – Insurance-Associated Emissions

- Provides methodological guidance for measuring and reporting the GHG emissions associated with **re/insurance underwriting for two segments**.
- **The two segments** are: 1) commercial lines, and 2) personal motor lines.

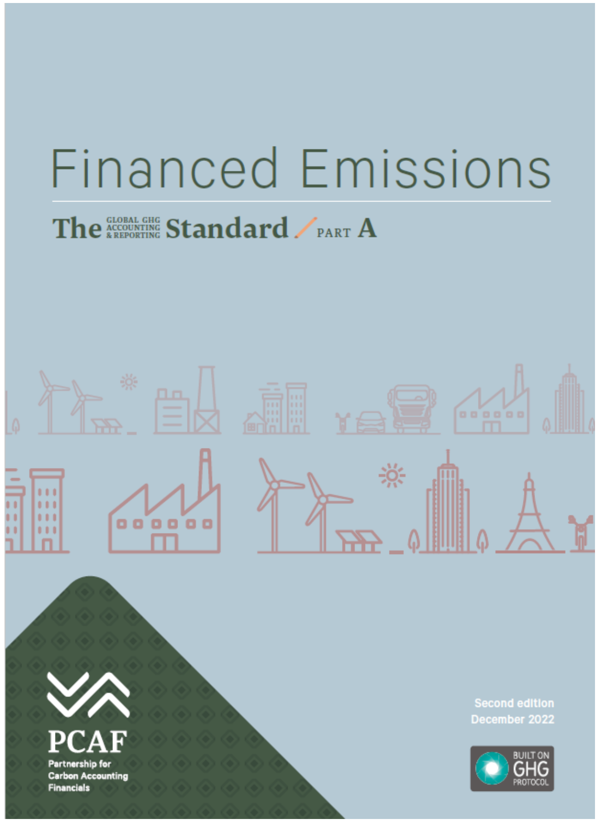
PCAF drives implementation through regional and national collaborations

- **PCAF INC.** – Board of Directors
  - **PCAF GLOBAL** – Secretariat
    - **PCAF GLOBAL** – Climate Data Working Group
    - **PCAF GLOBAL** – Core Team
    - **PCAF EUROPE** – Europe Implementation Team
      - PCAF Netherlands
      - PCAF UK
      - PCAF/VfU D-A-CH-Li
      - PCAF Nordic
    - **PCAF NORTH AMERICA** – North Am Implementation Team
    - **PCAF LATIN AMERICA** – Latin Implementation Team
    - **PCAF ASIA-PACIFIC** – Asia-Pacific Implementation Team
      - PCAF Korea
      - PCAF Japan
    - **PCAF AFRICA** – Africa Implementation Team
    - PCAF for Islamic finance (Asia-Pacific / Africa)

Additional national chapters can be created upon demand.

Ready to use – second edition of the PCAF Standard Financed Emissions

CLICK HERE TO DOWNLOAD THE PCAF STANDARD



- LISTED EQUITY AND CORPORATE BONDS
- BUSINESS LOANS AND UNLISTED EQUITY
- PROJECT FINANCE
- COMMERCIAL REAL ESTATE
- MORTGAGES
- MOTOR VEHICLE LOANS
- SOVEREIGN DEBT

EMISSION REMOVAL GUIDANCE

Many regulations and legislations already require GHG accounting and reporting (1/2)

REGULATIONS	REPORTING REQUIREMENT SCOPE 1	SCOPE 2	SCOPE 3	VOLUNTARY/ MANDATORY
EU Taxonomy Regulation	✓	✓	✓	**Mandatory** for public interest entities (PIEs)* with 500+ employees
Sustainable Finance Disclosure Regulation (SFDR)	✓	✓	✓	**Mandatory** for all FMPs and Pas in the EU with 500+ employees
Accounting Directive & Non-Financial Reporting Directive (NFRD)[1]	*No specific disclosure requirements*[1]			**Mandatory** in all EU Member States for public interest entities (PIEs)* with 500+ employees
Corporate Sustainability Reporting Directive (CSRD)	✓	✓	✓	**Mandatory** for undertaking in scope of NFRD plus entities with 250+ employees and all listed companies
Capital Requirements Regulation (CRR) & Capital Requirements Directive (CRD)	✓	✓	✓	**Mandatory** for large FIs with issued securities on an EU market

[1] Does NOT impose detailed disclosure requirements; GHG accounting and reporting, for instance, is NOT required. Allows for non-disclosure of information if this is made transparent and reasons are given.

* Public interest entities (PIEs), i.e. entities established in the EU whose securities are admitted to trading on an EU regulated market, as well as licensed credit institutions and insurance companies having their registered office in the EU and entities designated by a Member State as such

Many regulations and legislations already require GHG accounting and reporting (2/2)

REGULATIONS	REPORTING REQUIREMENT SCOPE 1	SCOPE 2	SCOPE 3	VOLUNTARY/ MANDATORY
Securities and Exchange Commission (SEC) Proposed Rule on the Enhancement and Standardization of Climate-Related Disclosures for Investors	✓	✓	*Specific requirements*[1]	**Mandatory** for domestic and foreign registrants in the US
Task Force on Climate-related Financial Disclosures (TCFD)	✓	✓	✓	**Voluntary** but part of regulatory framework in multiple countries
International Sustainability Standards Board on Climate Disclosure	✓	✓	✓	**Voluntary**

PCAF enables financial institutions to comply with these regulations and legislations by providing a standardized methodology to measure and report financed emissions.

[1] Only required if scope 3 emissions are either material to the company or if the company has set a scope 3 emission targets

PCAF Driving Tangible Business Outcomes

PCAF Partnership for Carbon Accounting Financials

Measuring and disclosing financed emissions furthers climate-related business goals and aligns with other initiatives

Business Goal 1
Create transparency for stakeholders

Business Goal 2
Manage climate-related transitions risks

Business Goal 3
Develop climate-friendly financial products

Business Goal 4
Align financial flows with the Paris Agreement

MEASUREMENT OF FINANCED EMISSIONS

CDP DISCLOSURE INSIGHT ACTION

TCFD TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

PCAF supports CDP in creating transparency for stakeholders

Business Goal 1	Business Goal 2	Business Goal 3	Business Goal 4
Create transparency for stakeholders	Manage climate-related transition risks	Develop climate-friendly financial products	Align financial flows with the Paris Agreement

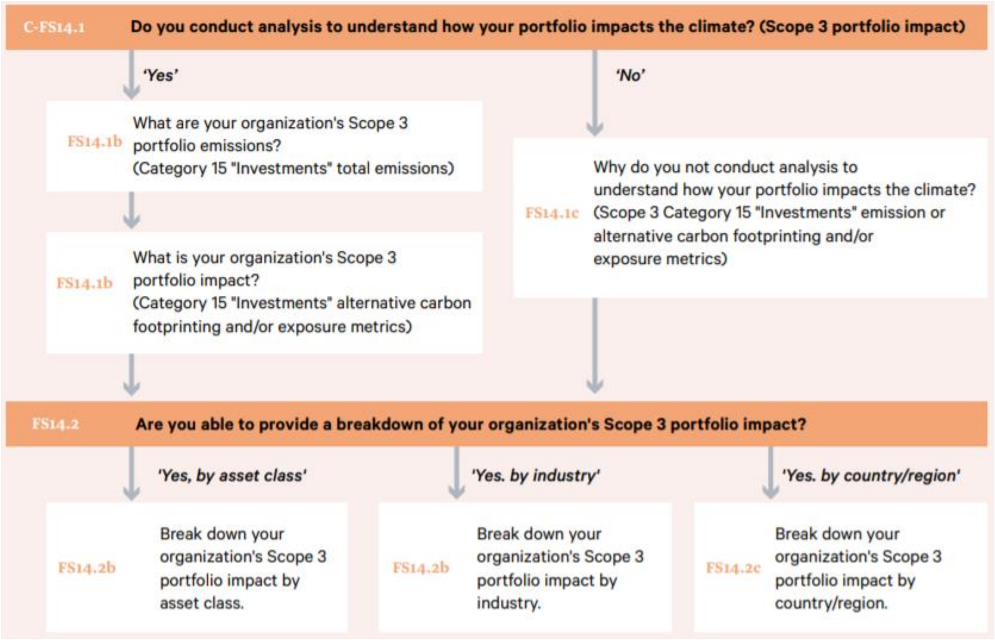
Aim of the business goal:
Create transparency for stakeholders

Activities to achieve the goal:
Disclose financed emissions, along with a breakdown of these emissions by asset class, sector, and geography

Main organization:
CDP helps organizations disclose their environmental impact

CDP
DISCLOSURE INSIGHT ACTION

Using PCAF to calculate financed emissions to enable a successful completion of the CDP Questionnaire



Snapshot of the CDP questionnaire from 2020; please refer to CDP for any updates

Financed emissions are a key metric to understand climate-related transition risks as per the TCFD

Business Goal 1	Business Goal 2	Business Goal 3	Business Goal 4
Create transparency for stakeholders	Manage climate-related transition risks	Develop climate-friendly financial products	Align financial flows with the Paris Agreement

Aim of the business goal:
Understand and manage climate-related transition risks

Activities to achieve the goal:
Measure financed emissions and as a result of financed emissions assessments, financial institutions can identify GHG-intensive hotspots that could be subject to higher transition risk

Main organization:
TCFD provides a framework to measure and disclose the transition risks posed to organizations by climate-related policies and regulations

TCFD | TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

TCFD officially recommends that banks, asset owners and asset managers measure and disclose financed emissions in line with the PCAF Standard

Financed emissions inform climate strategies to develop products that support the transition toward net-zero

Business Goal 1 Create transparency for stakeholders	Business Goal 2 Manage climate-related transition risks	**Business Goal 3** Develop climate-friendly financial products	Business Goal 4 Align financial flows with the Paris Agreement

Aim of the business goal:
develop climate-friendly financial products

Activities to achieve the goal:
Measuring financed emissions helps financial institutions understand whether their climate-friendly products are having the desired effect on their portfolio emissions

Examples:

Special mortgage to improve the energy efficiency of houses	Funding and affordable financing for clean vehicles	Green loan to fund green energy and sustainability projects	Commercial real estate tools to improve buildings energy efficiency
A dedicated financial product with a lower interest to customers that renovate their homes and aim to improve energy efficiency (B, A, A+)	Providing grants and affordable financing to help income-qualified citizens purchase or lease a new or used hybrid or electric vehicle	Enabling clients to fund projects with a positive climate impact or that help reduce climate impact. Including harnessing and storing solar and wind energy, or upgrading to eco-friendly machinery	Enabling real estate clients to increase the energy efficiency of buildings and associated carbon emissions. Using a sustainable investment tool, the financial institutions can assess the assets and recommend improvement measures along with special financing offerings

Measuring financed emissions sets the baseline for science based targets using the SBTi’s methodologies

Business Goal 1	Business Goal 2	Business Goal 3	Business Goal 4
Create transparency for stakeholders	Manage climate-related transition risks	Develop climate-friendly financial products	Align financial flows with the Paris Agreement

Aim of the business goal:
Align financial flows with the Paris Agreement

Activities to achieve the goal:
Measuring financed emissions is necessary to establish a baseline from which science-based emission reduction targets can be set

Main organization:
Science Based Targets Initiative (SBTi)

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

Net-zero emissions by 2050

Net-zero/ Paris alignment commitments
- The percentage of a portfolio with net-zero commitments is a measure of total portfolio alignment

Benchmark-divergence models
- Measure present-day performance and forward-looking forecasts of counterparty emissions against a reference pathway drawn from a climate scenario
- One example is **temperature warming metrics** where the ‘temperature’ of a portfolio is estimated and compared with a Paris benchmark of 1.5 °C

GHG Accounting Implementation

PCAF Partnership for Carbon Accounting Financials

Emissions are attributed to financial institutions based on robust and consistent accounting rules

FINANCED EMISSIONS

$$= \sum_{i} \frac{\text{Investment}_i}{\text{Investee equity}_i + \text{Investee debt}_i} \quad \text{x} \quad \text{Emissions of investee}_i$$

$(\text{with i} = \text{investee})$

Attribution Factor

- The attribution factor is used to show the FI's share of the borrow or investee's emissions
- A borrower or investee is a general term and could represent a company, property, project or motor vehicle (asset class dependent)

Emissions are attributed to financial institutions based on robust and consistent accounting rules

FINANCED EMISSIONS

$$= \sum_i \frac{\text{Investment}_i}{\text{Investee equity}_i + \text{Investee debt}_i} \times \text{Emissions of investee}_i$$

(with i = investee)

Reported emissions$_i$

Physical activity-based emissions$_i$

Economic activity-based emissions$_i$

Hierarchy of preference

Reporting recommendations and requirements: Data and data quality

- FIs **shall** use the most recent or otherwise appropriate data available to them.
- FIs **should** provide a description of the ***types*** and ***sources*** of data used to calculate emissions. Descriptions **should** be written to create transparency.
- The ***data hierarchy tables*** provided in each asset class method in Chapter 5 **should** be used as a guide for disclosing data quality. Financial institutions **should** explain how data quality is assessed, acknowledging that it will improve over time.

GENERAL DESCRIPTION OF THE DATA QUALITY SCORE TABLE FOR BUSINESS LOANS AND UNLISTED EQUITY

Hierarchy of preference: Highest → Lowest

Data quality	Options to estimate		When to use each option
Score 1	**Option 1: Reported emissions**	1a	• Outstanding amount in the company and EVIC are known. • **Verified emissions** of the company are available.
Score 2		1b	• Outstanding amount in the company and EVIC are known. • **Unverified emissions** calculated by the company are available.
	Option 2: Physical activity-based emissions	2a	• Outstanding amount in the company and EVIC are known. • Reported company emissions are not known. • Emissions are calculated using primary physical activity data of the **company's energy consumption** and emission factors specific to that primary data. • Relevant process emissions are added.
Score 3		2b	• Outstanding amount in the company and EVIC are known. • Reported company emissions are not known. • Emissions are calculated using primary physical activity data of the company's production and emission factors specific to that primary data.
Score 4	**Option 3: Economic activity-based emissions**	3a	• Outstanding amount in the company, EVIC, and the **company's revenue** are known. • Emission factors for the sector per unit of revenue are known (e.g., tCO_2e per euro of revenue earned in a sector).
Score 5		3b	• Outstanding amount in the company is known. • Emission factors for the sector per unit of asset (e.g., tCO_2e per euro of asset in a sector) are known.
		3c	• Outstanding amount in the company is known. • Emission factors for the sector per unit of revenue (e.g., tCO_2e per euro of revenue earned in a sector) and **asset turnover ratios** for the sector are known.

PCAF and CDP align data quality systems to support standardization

PCAF AND CDP PAPER PUBLICATION

- PCAF and CDP have co-authored a paper examining the importance of data quality as part of a wider initiative to align their data quality scores.
- The paper examines the challenge posed by a lack of standardization in data quality scoring, which has a significant impact on the progress to decarbonization.
- The continued collaboration aims to align their respective data quality systems to simplify and streamline the measurement and disclosure of financed emissions.


The importance of data quality in the journey toward decarbonization

JUNE 2023

A co-authored report from:

PCAF Partnership for Carbon Accounting Financials

CDP DISCLOSURE INSIGHT ACTION

Download the PCAF CDP paper here

The Standard addresses data quality issues and advises on which data can give the most robust results for each asset class

Data quality scorin

Certain
(5-10% error margin in estim

SCORE 1

SCORE 2

SCORE 3

SCORE 4

SCORE 5

Uncertain
(40-50% error margin in estim

Simple example to calculate asset class Data Quality Scores

Investment	Asset Class	Portfolio Weighting	Data Quality Score (DQS)
PortCo A	Listed Equity	23%	1
PortCo B	Listed Equity	13%	1
PortCo C	Listed Equity	6%	3
PortCo D	CRE	10%	4
PortCo E	CRE	22%	5
PortCo F	Unlisted Equity	12%	2
PortCo G	Unlisted Equity	14%	3

Per asset class: calculate the sum product of the investment with the DQS and divide it by the asset class portfolio weight

Listed Equity DQS 1.3

CRE Equity DQS 4.7

Unlisted Equity DQS 2.5

velop a strategy to

4 5

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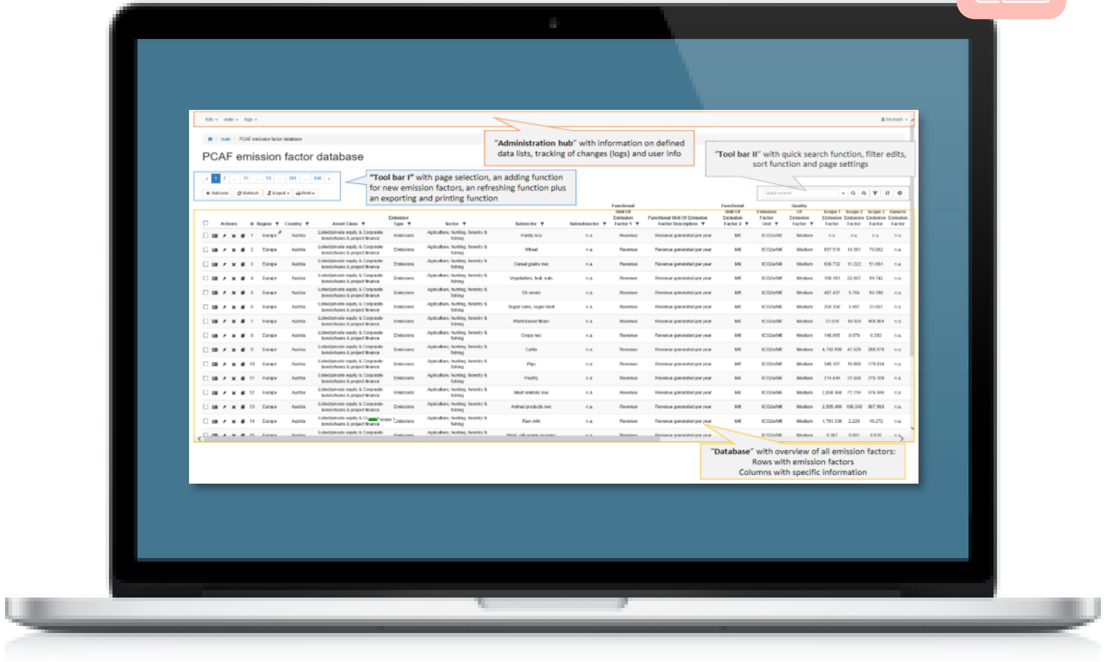
PCAF’s open-source database enables financial institutions to start with GHG accounting at asset class level

- Directly based on the PCAF methods to kick-start assessment of financed emissions
- Hotspot the most emissions intensive parts attributed to the bank or investor



Available for PCAF signatories

Set of publicly available emission factors across geographies and asset classes

Transparent

Includes data quality score card

Deep Dive into Insurance Associated Emissions

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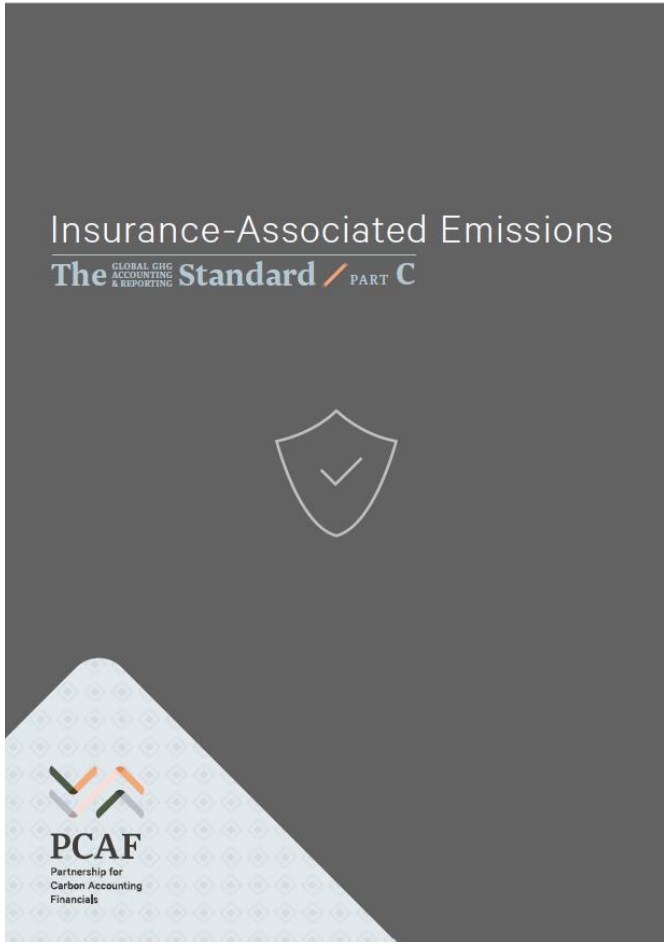
MAY 00, 2023



Update on PCAF Insurance-Associated Emissions

THE FIRST VERSION OF THE PCAF STANDARD INCLUDES THE FOLLOWING SEGMENTS:

COMMERCIAL LINES

PERSONAL MOTOR LINES

A detailed table highlights which LoBs within commercial lines are covered by the Standard

The Standard was published on 16th November 2022

Part C: Insurance-Associated Emissions – two LoBs

Commercial lines

COMMERCIAL LINES

$$\frac{\text{Re/insurance premium}_i}{\text{Customer revenue}_i} \times \text{Emissions}_i$$

Personal motor lines

PERSONAL MOTOR LINES

(Industry) Attribution factor $_p$ =

$$\frac{\text{Insurance industry's total premium from the motor line of business}}{\text{Total costs associated with vehicle ownership of all vehicles}} \times \text{Vehicle emissions}$$

or (for cases where risk carriers are unable to use the industry attribution factor above)

(Individual) Attribution factor $_p$ =

$$\frac{\text{Insurance specific premium from the motor line of business}}{\text{Total costs associated with vehicle ownership of the portfolio P vehicles}} \times \text{Vehicle emissions}$$

Personal motor lines

Total cost of ownership

PCAF uses the concept of «total cost of ownership» to determine the attribution of motor vehicle emissions. Five main elements make up the total coast of ownership, along with a sixth category for other items:

- **Vehicle depreciation costs**
- **Fuel costs**
- **Insurance premiums**[1]
- **Maintenance**
- **Registration/taxes**
- **Other - Parking, tolls, etc.**

[1] Re/insurance premium is defined as gross written premium (the total amount to be paid by the insured to the re/insurer for the policy written in the period) minus external acquisition cost (e.g., agent feed).

- In markets where risk carriers are unable to use the PCAF provided total cost of ownership attribution factor, re/insurers are able to follow the methodology below to calculate their own attribution factor value based on the total cost of ownership approach. They will provide PCAF with details of sources used for the calculation. They should use the guidance from the PCAF Standard Part C: Insurance-Associated Emissions to calculate an **(Individual) Attribution factor**. These national attribution factors could also be calculated by respective insurance associations.
- For guidance on how to calculate the **(Individual) Attribution factor** please consult the sub-chapter «Methodology for re/insurer calculation of total cost of ownership attribution factor» on pages 45 and 46 in the PCAF Standard Part C: Insurance-Associated Emissions.

Following segments/LoBs are covered or not covered*

LoB	COVERED IN	LoB	COVERED IN
Property (e.g., fire, multi peril)	5.2 Emissions associated with commercial lines	Other/Special lines (e.g., Financial Lines)	5.2 Emissions associated with commercial lines
Liability/Casualty (e.g., General Liability, Product Liability)	5.2 Emissions associated with commercial lines	Statutory lines of businesses	5.2 Emissions associated with commercial lines
Commercial motor (all lines)	5.2 Emissions associated with commercial lines		
Marine (liability and hull)	5.2 Emissions associated with commercial lines	Structured trade credit (insurance of credit risk for bank loans, etc.)	Out of scope
Aviation (liability and hull)	5.2 Emissions associated with commercial lines	Surety	Out of scope
Agriculture (excl. government schemes)	5.2 Emissions associated with commercial lines	Engineering lines: Construction all-risk, erection all-risk only	Out of scope
Trade credit (insurance of credit risk for sold goods)	5.2 Emissions associated with commercial lines	Corporate life and pensions, personal accident	Out of scope
All other engineering lines (e.g., machinery breakdown)	5.2 Emissions associated with commercial lines	Public entities	Out of scope

* See footnotes on page 30 of the PCAF Standard Part C: Insurance-Associated Emissions for more details.

The PCAF Insurance-Associated Emissions Working Group

FINANCIAL INSTITUTION	HEADQUARTERS	FINANCIAL INSTITUTION	HEADQUARTERS
Allianz	Germany	Munich Re	Germany
Aviva	United Kingdom	NN Group	Netherlands
AXA	France	QBE	Australia
Bradesco Seguros	Brazil	SCOR	France
Generali	Italy	SOMPO	Japan
ICEA Lion	Kenya	Swiss Re	Switzerland
Liberty Mutual	United States of America	Tokio Marine	Japan
Lloyd’s	United Kingdom	Zurich	Switzerland

Benefits of PCAF

PCAF Partnership for Carbon Accounting Financials

Financial institutions join PCAF to contribute to transparency and harmonization, as well as to prepare for the future

WHY JOIN PCAF?

TRANSPARENCY

- Interact with data providers and clients to understand data quality and approaches used
- Manage stakeholders that increasingly demand transparency

HARMONIZATION

- Measure consistently to have a better understanding of portfolios climate impact and climate risks

GROUNDWORK

- Manage risks, steer on emissions reduction goals and take action based on transparent and harmonized emissions accounting
- Prepare for regulation

Joining PCAF also brings multiple additional benefits

NETWORK EXPANSION

- Investors, banks and experts globally
- Link to SBTi-FIs, UNEP FI's NZAOA, NZBA, GFANZ, TCFD and CDP

DECISION-MAKING AUTHORITY

- The Global GHG Accounting and Reporting Standard (when joining the PCAF core team)
- Local-tailored guides
- Best practices

LEADERSHIP RECOGNITION

- Global and regional events on climate finance
- Social media via PCAF marketing channels

TECHNICAL SUPPORT

- Workshops and trainings
- Technical guides and case studies

Q&A

Thank you.

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